

first record of the species from the State of Rondônia and only c. 100 km from Bolivia, opening up the possibility that *D. accipitrinus* occurs in the northern, Amazonian parts of that country.

Acknowledgements

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Notes on the status and ecology of the Ogea Flycatcher *Mayrornis versicolor*

by Dick Watling

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The sole collection of the Ogea Flycatcher *Mayrornis versicolor* was made by the Whitney South Sea Expedition during its visit to Ogea in Fiji's southern Lau Group (19°10'S, 178°25'W), 26 Jul-4 Aug 1924. It was subsequently described by Mayr (1933).

Since that visit there have been no reports of any ornithologist visiting Ogea and the absence of any contemporary knowledge of this flycatcher's status was giving rise for concern. In addition, Ogea has suffered damage from 4 tropical cyclones in recent years (1973, 1975, 1979, 1985), but perhaps most disturbing has been the possibility of exploitation of Ogea's proven phosphate resources (Ministry of Lands, Energy & Mineral Resources, Fiji Government). Of considerable further interest was the overall status of the Ogea Flycatcher in view of its suspected

hybridisation with a congener the Slaty Flycatcher *M. lessoni* (Mayr 1933).

I visited Ogea (Fig. 1) from 26 Jul to 23 Aug 1986, carrying out limited mist-netting (15 mist-net days) and spent just under 62 hours on field transects, mostly between 0630 and 1100 hrs. Whilst at Ogea, I spent 2 days on Ogeadriki, and one on Dakuiyanuya, the remaining fieldwork being carried out on Ogealevu. I also surveyed the neighbouring islands of Namuka on 25 Jul, Vulaga 5–6 Aug, and 3 islands of the Yaqasa Cluster 1–4 Aug.

Ogea

Ogea consists of 2 principal islands, Ogealevu (13.3 km²) and Ogeadriki (5.2 km²), situated 2 km apart, to the north and south of a lagoon which contains numerous small limestone islands and outcrops. Dakuiyanuya (c. 2 km²) lies 250 m southwest of Ogealevu from which it is separated by many small outcrops and sandflats which are exposed at lowtide.

The islands are limestone, of raised coral origin, and the highest point (on Ogealevu) is 82 m. A single village with a population of 120 is located on Ogealevu but much of the agricultural land is on Ogeadriki. Both islands are heavily forested, with less than 10% of the land area converted to coconut plantations and agricultural land (calculated from 1982 aerial photographs). The forest itself is rich in certain valuable timber trees, particularly *Intsia bijuga* and *Calophyllum* sp. These are felled by the villagers for house timber, for traditional handcrafts and for the construction of outrigger sailing canoes, a traditional skill for which the islanders are justly renowned throughout Fiji. Timber felling is restricted by access difficulties, as the terrain over both the major islands is very rugged, weathered limestone. (See Fig. 2.)

Forest structure is not uniform, areas with more soil having a distinct and sometimes thick substage or herb/shrub layer. Where soil is minimal or lacking, there is very little growth below the canopy, making movement comparatively easy, the rough terrain apart. The southern, and especially eastern, aspects are exposed to the southeast tradewinds for much of the year and in the elevated positions particularly, the forest is stunted or replaced by a wind-battered scrub layer.

There is no standing water on the islands and the agricultural soil resources are strictly limited, the main areas already exhausted.

Distribution of the Ogea Flycatcher

Hitherto the Ogea Flycatcher has been regarded as a single island endemic because the Whitney Expedition collected it only on Ogealevu. During my survey, I found the Ogea Flycatcher on both Ogeadriki and Dakuiyanuya in addition to Ogealevu.

The 1924 Whitney Expedition anchored off Ogeadriki 27–29 Jul before moving across to Ogealevu, where they worked ashore 30 Jul–3 Aug (Bryan 1924: 196–210). If the Flycatcher was present on Ogeadriki and at the same density as it is today, and the Expedition's collectors worked there for 3 days, they would surely have encountered it; but for unknown

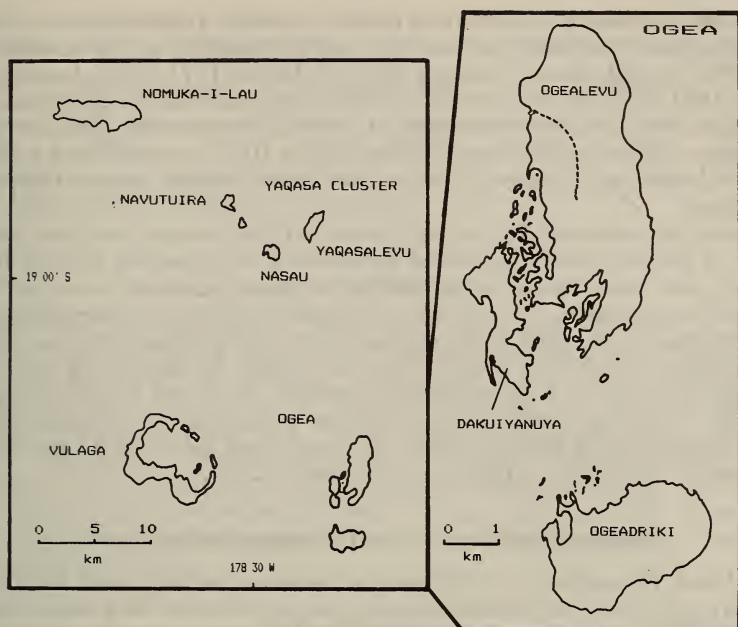


Figure 1. Ogea and surrounding islands in Fiji's Southern Lau Group (Dashed line—census transect).

reasons they did not collect specimens of any bird species there (Watling 1985). Only a few observations from Ogeadriki (and none of the flycatcher) were recorded in the journals of the principal collectors, Rollo Beck and José Correia and the botanist-entomologist Edwin H. Bryan Jr. Without recognising the Flycatcher as a new species, the Whitney collectors made no special search for it, and just one mention of it is made in Beck's journal (see below).

Unfortunately, it is therefore impossible to conclude whether or not the presence of the Ogea Flycatcher on Ogeadriki represents a recent range expansion. Similarly, no specimens were collected from, or ornithological journal entries made, for Dakuiyanuya (Yanuia in Bryan's journal p. 210) by the Whitney Expedition.

I did not find the Ogea Flycatcher on the neighbouring islands of Namuka, Vulaga or the Yaqasa Cluster, despite searching in an abundance of apparently suitable habitat.

Population

Censuses were run 0630–1030 hrs on 4 separate mornings, along the same transect (Fig. 1), an existing but little used track which cut diagonally across from the island's centre to the northwest coast. There were small areas of disturbance from timber felling at both ends of the transect,

otherwise it crossed undisturbed forest, probably representative of the island's forest vegetation as a whole, although this was not verified. I used the Variable Strip Transect Method (Emlen 1971, 1977, Ramsey & Scott 1981) and the population estimate was made using observations within a 30 m strip on either side of the 1600 m transect. The average number of flycatchers seen per transect was 10.25, representing a density of 10.68 per 10 ha or 1780 for the forest habitat of the 3 islands combined.

Given the nature of the terrain, brevity of the censuses and the possibility of habitat and inter-island differences in flycatcher density (see below), one cannot place great confidence regarding accuracy in such a population estimate. Furthermore, it appears likely that breeding was taking place at the time of the censuses and some birds may have been incubating (see below). Making an adjustment for singletons actually representing pairs, the population estimate is raised to 2330. Even though there is a tendency for transect censusing to underestimate populations (Bell & Ferrier 1985), one might best conclude for the Ogea Flycatcher population a figure in the order of 2000.

Habitat preferences and foraging behaviour

The Ogea Flycatcher is restricted to forested habitats and does not venture out into the limited areas of open cultivated land and village fringes. Within the forest, my subjective impression was that the flycatcher was more commonly found at the forest edge around clearings or fallen/felled trees and perhaps also in successional forest. More intensive work would be required to confirm these impressions. However, they concur with an observation recorded by Rollo H. Beck (1924: 54) when referring to both the Slaty and Ogea Flycatchers "grey Fantails [Slaty Flycatcher] are more rare than brown ones [Ogea Flycatcher] and live in the older parts of the forest". I also more commonly encountered it in forest areas with a well developed substage.

Whereas successional and edge habitats are of limited extent, areas of sparse substage within the forest are believed to be extensive and as such the population estimate above could be greatly affected. Similarly, the rate of encounters with Ogea Flycatchers was lower on Ogeadriki (1.3/hr) and Dakuianuya (0.3/hr) than on Ogealevu (2.3/hr).

The Ogea Flycatcher is a rather generalised forager, but is primarily a foliage gleaner at any height, from the ground layer to the canopy. The foraging behaviour of both Fijian species of *Mayrornis* is similar to that of fantails and more especially sylviine leaf-warblers, neither species being the true flycatchers their commonly used English names would suggest. Whilst working its way through the foliage, the Ogea Flycatcher's tail is often gently spread and sometimes cocked with the wingtips slightly lowered. Occasional sallies after insects usually terminate on a different branch from that from which they originated. Rarely, they flutter fantail-like against the foliage to dislodge insects. They were also observed probing into bark fissures and working up large branches and lianas entwining a trunk. Table 1 summarises foraging data.

TABLE 1

A summary of data on foraging behaviour of the Ogea Flycatcher *Mayrornis versicolor*.

Height		Foraging medium			Activity		
Canopy	Mid-height	Ground	Leaves	Woody	Gleaning	Aerial	Other*
37 (43)	38 (44)	11 (13)	56 (80)	14 (20)	74 (86)	7 (8)	5 (6)

Notes. Number given is of observations of foraging birds, percentage in parentheses.

*Includes 'leaf or trunk snatching', probing.

Foraging associates

Whilst foraging, the Ogea Flycatcher is frequently observed in the vicinity of other foraging passerines, of which there are 7 in the forest on Ogea. By far the most common associate is the Vanikoro Broadbill *Myiagra vanikorensis*, a typical monarch flycatcher. Of the 63 observations when one or more Ogea Flycatchers were recorded, other species were in the near vicinity (<25 m) on 24 (38%) of the occasions; the broadbill (16 observations), Golden Whistler *Pachycephala pectoralis* (4), Fiji Shrikebill *Clytorhynchus vitiensis* (2), and once each the Wattled Honeyeater *Foulehaio carunculata*, Polynesian Starling *Aplonis tabuensis* and Slaty Flycatcher.

Calls. Breeding

The Ogea Flycatcher is commonly vocal, 60% of first detections on transects were by sound rather than sight. A mild but carrying 'tsic' frequently repeated, is the normal call. When agitated this becomes more rapid and harsher, sometimes transforming into a single note before trailing off. Another frequent call is a double, or a short series of 'tsic', followed by a brief upslurred whistle, sometimes repeated once or twice. All the Ogea Flycatcher's vocalisations heard are of a very similar character to those of the Slaty Flycatcher.

Ogea Flycatchers were most frequently encountered in pairs (50% of observations) followed by singletons (43%) and others—3, 4 or 5 together (7%). I saw no breeding activity until my penultimate day of fieldwork, when I observed a very recently fledged, dependent young. It was clear that many pairs were holding territories, as they would be seen in the same locations day after day and several agonistic encounters were observed. Although I had seen no breeding activity, it seems possible that it was, in fact, well advanced and that many of the singletons seen represented pairs with one bird on the nest. Other forest passerines including Wattled Honeyeaters, Golden Whistlers and Fiji Shrikebills were breeding at the time. However, the gonads of all the Ogea Flycatchers collected by the Whitney Expedition, with the exception of 2 (unrecorded), were small. Both our visits were during the same months, July and August.

The Slaty Flycatcher and hybridisation

As Mayr (1933) pointed out, the sympatric occurrence of these congeners on a very isolated island (group) is of great biological interest, and the

consequence of hybridisation, if it is occurring, could be the eventual disappearance of the Ogea flycatcher, the Slaty Flycatcher having the wider range of the 2, and though uncommon in Ogea and absent on Vulaga it is common on the 3 islands of the Yaqasa Cluster (17–20 km to the north of Ogealevu) which I visited. These observations are consistent with those of the Whitney Expedition in 1924. Mayr's evidence for hybridisation was 2 specimens (AMNH 251204 & 251308) of Slaty Flycatcher from Ogealevu, with plumage anomalies which carried distinctive characteristics of the plumage of the Ogea Flycatcher. My own examination revealed another similar specimen No. 251206. No such anomalies are present in the Ogea Flycatcher series. The Whitney Expedition was able to collect equally as many Slaty as Ogea Flycatchers (14/15) on Ogealevu, indicating (despite Beck's observation in his journal—see above) that both species were reasonably common.

During my present survey, I saw not a single Slaty Flycatcher on Ogealevu until my 14th day of fieldwork there, and the pair seen then proved to be the sole sighting; in contrast, I saw a single Slaty Flycatcher on Ogeadriki on the first morning of my 2 days there, though I saw no others. It seems clear that the Slaty Flycatcher is now very rare on Ogealevu, as it is not a bird which can be easily overlooked, the Lau race, at least, being bold and conspicuous and readily attracted to any disturbance and artificial 'shushing' calls.

The sole Slaty Flycatcher seen on Ogeadriki was observed in the company of an Ogea Flycatcher, but they were not obviously behaving as a pair.

Mayrornis is a genus of Fijian origin, but of uncertain immediate affinities. Formerly classified as Rhipidurine fantails (which on grounds of behaviour is not totally inappropriate), the current Monarchine position is adopted here on the basis of morphology and the nest structure (pers. obs. of both races of *M. lessoni*). Of the 3 species in the genus, 2 have very restricted ranges, *M. versicolor* the most specialised of the group, and *M. schisticaeus*. The latter is similar in size and plumage colour to *M. lessoni* and is one of only 3 species of Fijian origin which have managed to colonise the Solomon's Santa Cruz islands (though not the closer islands of Vanuatu), the others being *Clytorhynchus nigrogularis* and *Aplonis tabuensis*.

The widest spread member of the genus is the Slaty Flycatcher, which has been recorded on over 50 islands in the Fijian archipelago (Watling 1985 & unpubl.). On size grounds it is clearly separable into 2 races. *M. l. orientalis* is confined to Fiji's eastern Lau Group and is larger and more robust than the nominate subspecies (c. 10% larger linear measurements—Table 2). In the absence of weight data for *M. l. orientalis*, I estimate it to be about twice the weight of the Ogea Flycatcher, with which it is sympatric on Ogea. In contrast the allopatric nominate subspecies *M. l. lessoni* has similar linear measurements to *M. versicolor* although it is more robust and heavier.

Ogea is the only island (group) which has been successfully colonised by 2 waves of *Mayrornis* immigration. As the endemic species and the most divergent member of the group, it is more probable that the Ogea Flycatcher stock was the original colonist, while the larger and more

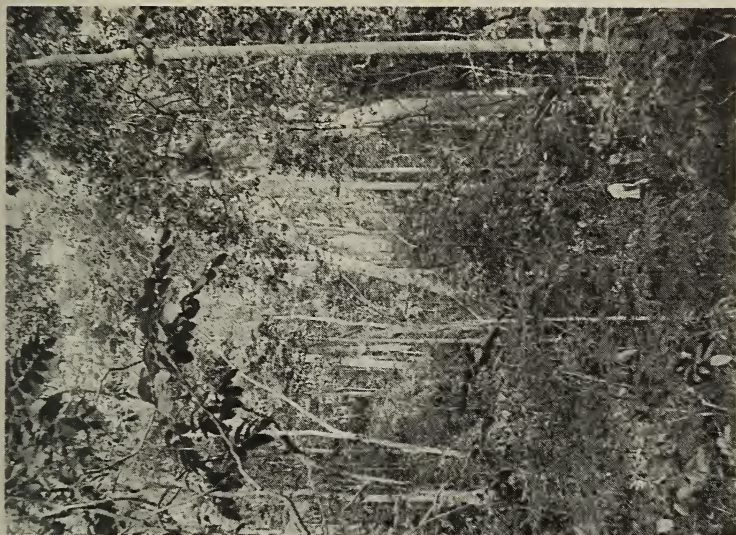


Figure 2. The Ogea Flycatcher *Mayrornis vesicolor* and its habitat. (Dick Watling).



TABLE 2

Average weights (g) and measurements (mm) for *Mayrornis* flycatchers. All measurements are derived from Mayr (1933), and weights (n=sample size, sexes not distinguished) from this study and Watling (unpubl.).

		Wing	Tail	Culmen	Weight
<i>M. l. lessoni</i>	male	68.9	59.2	14.9	11.2
(Central Fiji)	female	65.4	55.8	14.4	(n=13)
<i>M. l. orientalis</i>	male	75.7	67.2	17.7	—
(Lau Group)	female	72.1	64.4	17.0	—
<i>M. versicolor</i>	male	69.7	60.1	14.9	8.7
(Ogea)	female	66.4	58.2	14.4	(n=2)
<i>M. schistaceus</i>	male	70.4	61.5	16.8	—
(Santa Cruz)	female	67.1	59.7	16.0	—

widespread *M. l. orientalis* arrived later. The evolution of the *Mayrornis* species appears to stem from a *M. l. lessoni*-type ancestor which evolved in the central Fijian island land mass and then dispersed widely, managing to colonise Santa Cruz to the northwest, and Ogea to the southeast in the islands of the Lau Group. Elsewhere in this part of its range, in the absence of strong competition in the simple, small-island avifaunas, the larger generalist form (*M. l. orientalis*) evolved, and subsequently reinvaded Ogea and other Lau islands, though, nonetheless curiously and inexplicably, is absent from several large islands of Lau (Mayr 1933, Watling 1985). On Ogea a distinctive population of the original colonist evolved, having apparently diverged sufficiently to nullify very occasional hybridisation with the second wave of colonists. Indeed the evidence indicates that it may even be that the larger Slaty Flycatcher is the species which is losing ground, but this needs confirmation. What is more likely is that sympatry has, and is, continuing to reinforce the divergence of *M. versicolor* from its ancestral condition, with decreasing size and especially with the evolution of a species-specific plumage. What is not known and is of considerable interest is whether the first 'wave' of *Mayrornis* colonised islands of the Lau Group in addition to Ogea, where the populations have subsequently been lost as a result of competition from the second wave of colonists.

It is interesting to note that the Ogea Flycatcher has not evolved in a manner similar to that of many isolated island endemics, such as an increase in size, progressive drabness of plumage colouration and loss of flight proficiency. The presence of a competing congener could account for this, if their sympatry is of longstanding. In common with many island endemics, it has, however, poor powers of dispersal, otherwise it would have colonised Vulaga, 10 km distance, where the Slaty Flycatcher is absent.

Conservation status

The present conservation status of the Ogea Flycatcher must be viewed with some optimism. Its status can be described as common on Ogealevu at least. There are no indications that the recent series of tropical cyclones have greatly affected Ogea's forests or the Flycatcher population.

Nonetheless, a population of only c. 2000 (if the estimate is acceptable) would always remain vulnerable to chance catastrophes. The finding of the Flycatcher on Ogeadriki, a well separated and uninhabited island, is a major conservation asset. However, because of Dakuivanuya's proximity to Ogealevu it should not be considered a separate island for conservation purposes.

The Ogea Flycatcher is strictly a forest bird and would be vulnerable to forest clearance; this, however, is unlikely to occur because much of both islands have insufficient soil resources for agriculture and even coconuts do not thrive. It is probable that selective timber felling for traditional handicrafts and house construction will increase, but overall this is unlikely to affect the Ogea Flycatcher population, while detailed study might possibly show that the consequent increase in secondary growth could actually improve its habitat.

The population of Ogea's single village has increased from about 80 at the time of the Whitney Expedition's visit in 1924 (Bryan 1924: 205) to about 120 today. It is not, however, a thriving community; there is a strong drift to mainland Fiji where many of the youth are currently studying. The opportunities for land-based development on Ogea are strictly limited by its poor agricultural potential and very rugged terrain.

The known phosphate resource is restricted to Ogeadriki and is of low grade; it is considered a marginal resource at present, but its potential for exploitation will, however, remain (J. Lum, Mineral Resources Dept., Government of Fiji).

Potential predators of the flycatcher include Swamp Harriers *Circus approximans*, Barn Owls *Tyto alba* and feral cats, the latter present and probably common in the forest on Ogealevu; however, their presence on Ogeadriki was not confirmed. Only *Rattus exulans* was found on the islands, but further trapping would be needed to confirm the absence of *R. rattus* and *R. norvegicus*.

While hybridisation with the Slaty Flycatcher may be occurring, there was no evidence for it in the field and it seems most improbable that it could be threatening the Ogea Flycatcher population. It is clear that the Slaty Flycatcher is now rare on Ogealevu, having apparently declined since the visit of the Whitney Expedition over 60 years ago. Its decline, if real, indicates a dynamic situation, possibly implying that the invasion of Ogea by *M. l. orientalis* is a comparatively recent event, having taken place presumably from the islands of the Yaqasa Cluster to the north, where it is common. However, *orientalis*'s absence from several large islands in the Lau Group and in particular from Vulaga, which has a similar geology and flora to Ogea and is a similar distance from Yaqasa (see Fig. 1), indicates, to the contrary, that *orientalis* is not dispersing aggressively at present, so that its extinction on Ogea is a more realistic possibility.

In the absence of the Slaty Flycatcher, Vulaga has great conservation significance, in that it is certainly a potential translocation island for the Ogea Flycatcher if a critical situation should arise on Ogea, even though this is not evident at the present time.

Not only is the situation on Ogea of great biogeographical interest but the population dynamics of a species such as the Ogea Flycatcher, with a naturally small population in a restricted range, subject to frequent

cyclonic disturbance, is of wider conservation significance, and certainly worthy of more detailed study.

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Additions and corrections to the avifauna of Zaire (3)

by M. Louette

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These comments are a follow up of 2 earlier parts (Louette 1987, 1988).

Platalea leucorodia

This species is not mentioned specifically for Zaire by Brown *et al.* (1982), but Lippens & Wille (1976) say “se rencontre au Zaire de temps en temps, mais très rarement”; in fact Lippens (1938) had observed a bird on 17 January and collected a specimen on 22 Apr 1936 at Vitshumbi (Lake Edward: 0°42'S, 29°25'E), the latter still in existence in Koninklijk Museum voor Midden-Afrika (KMMA). This appears to be the southernmost locality recorded for the species. There is also a second specimen,